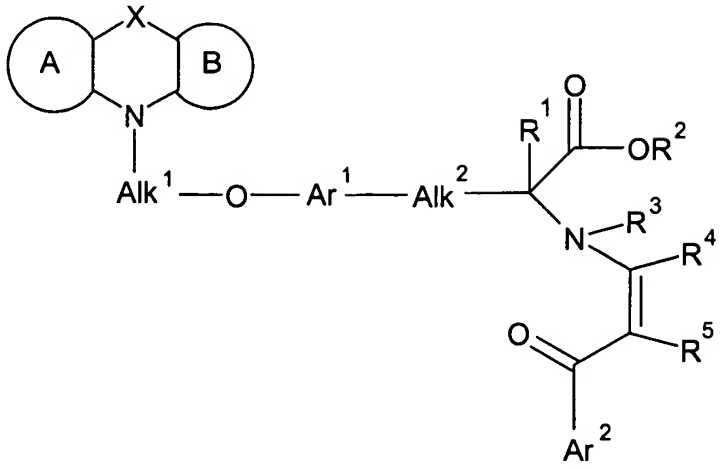
WHAT IS CLAIMED IS:

1. A compound of Formula I



(I)

wherein

ring A and ring B, fused to the ring containing X and N, independently of each other represents a 5-6 membered cyclic ring, which may optionally contain one or more heteroatoms selected from oxygen, sulfur or nitrogen atoms and may optionally substituted with one or more halogen, hydroxy, nitro, cyano, alkyl, alkenyl, alkenynyl, aralkyl, heteroarylalkyl, aminoalkyl, alkoxyalkyl, aryloxyalkyl, aralkoxyalkyl, hydroxyalkyl, thioalkyl, heterocyclyl, alkoxy, aryl, aryloxy, aralkoxy, heteroaryl, heteroaryloxy, heteroaralkoxy, acyl, acyloxy, amino, alkylamino, arylamino, or aralkylamino; the ring A and ring B may be saturated or contain one or more double bonds or may be aromatic;

X is a valence bond, CH_2CH_2, CH=CH, O, S, or NR^6 wherein R^6 represents H, alkyl, alkenyl, alkenynyl, aralkyl, heteroarylalkyl, heterocyclyl, aryl, or heteroaryl;

R^1 is H, alkyl, alkenyl, alkenynyl, aralkyl, heteroarylalkyl, aminoalkyl, alkoxyalkyl, aryloxyalkyl, aralkoxyalkyl, hydroxyalkyl, thioalkyl, heterocyclyl, OH, halogen, alkoxy, aryl, aryloxy, aralkoxy, heteroaryl, heteroaryloxy, heteroaralkoxy, acyl, acyloxy, amino, alkylamino, arylamino, or aralkylamino;

R^2 is H, alkyl, alkenyl, alkenynyl, aralkyl, heteroarylalkyl, heterocyclyl, aryl, or heteroaryl;

R^3 is H, alkyl, alkenyl, alkenynyl, aralkyl, heteroarylalkyl, heterocyclyl, aryl, or

heteroaryl;

R^4 and R^5 are independently H, alkyl, alkenyl, alkenynyl, aralkyl, heteroarylalkyl, aminoalkyl, alkoxyalkyl, aryloxyalkyl, aralkoxyalkyl, hydroxyalkyl, thioalkyl, heterocyclyl, OH, halogen, alkoxy, aryl, aryloxy, aralkoxy, heteroaryl, heteroaryloxy, heteroaralkoxy, acyl, acyloxy, amino, alkylamino, arylamino, or aralkylamino; R^4 and R^5 may form a 5 or 6 membered ring optionally substituted with one or more halogen, hydroxy, nitro, cyano, alkyl, alkenyl, alkenynyl, aralkyl, heteroarylalkyl, aminoalkyl, alkoxyalkyl, aryloxyalkyl, aralkoxyalkyl, hydroxyalkyl, thioalkyl, heterocyclyl, alkoxy, aryl, aryloxy, aralkoxy, heteroaryl, heteroaryloxy, heteroaralkoxy, acyl, acyloxy, amino, alkylamino, arylamino, or aralkylamino;

Alk^1 represents C_{1-6}alkylene;

Alk^2 represents C_{1-2}alkylene;

Ar^1 represents arylene, hetero arylene, or a divalent heterocyclic group optionally substituted with one or more halogen, C_{1-6}alkyl, amino, hydroxy, C_{1-6}alkoxyl or aryl.

Ar^2 represents an aryl group substituted with none, one or more halogen, C_{1-6}alkyl, amino, hydroxy, C_{1-6}alkoxyl or aryl; a hetero aryl, or a heterocyclic group optionally substituted with one or more halogen, C_{1-6}alkyl, amino, hydroxy, C_{1-6}alkoxyl or aryl.

2. A compound according to claim 1, wherein

ring A is a 6 membered aromatic ring;

ring B is a 6 membered aromatic ring;

X is a valence bond, CH_2CH_2, CH=CH, O or S;

R^1 is H or alkyl;

R^2 is H or alkyl;

R^3 is H or alkyl;

R^4 and R^5 are independently H or alkyl;

Alk^1 is C_{2-3}alkylene;

Alk^2 is C_{1-2}alkylene;

Ar^1 is an arylene group

Ar^2 is a substituted aryl group.

3. A compound according to claim 1, wherein

ring A is a 6 membered aromatic ring;

ring B is a 6 membered aromatic ring;

X is a valence bond, CH_2CH_2, CH=CH, O or S;

R^1 is H or alkyl;

R^2 is H or alkyl;

R^3 is H or alkyl;

R^4 and R^5 form a 6 membered aromatic ring;

Alk^1 is C_{2-3}alkylene;

Alk^2 is C_{1-2}alkylene;

Ar^1 is 6 membered aromatic ring

Ar^2 is a substituted aryl group.

4. A compound according to claim 1, wherein

ring A is a benzene ring;

ring B is a benzene ring;

X is a valence bond, CH_2CH_2, CH=CH, O or S;

R^1 is H;

R^2 is H;

R^3 is H;

R^4 is methyl; R^5 is H;

Alk^1 is CH_2CH_2;

Alk^2 isCH_2;

Ar^1 is benzene ring;

Ar^2 is benzene ring substituted with none, one or more fluorine;

5. A compound according to claim 1, wherein

ring A is a benzene ring;

ring B is a benzene ring;

X is a valence bond, CH_2CH_2, CH=CH, O or S;

R^1 is H;

R^2 is H;

R^3 is H;

R^4 and R^5 form a benzene ring;

Alk^1 is CH_2CH_2;

Alk^2 isCH_2;

Ar^1 is benzene ring;

Ar^2 is benzene ring substituted with none, one or more fluorine;

6. A compound according to claim 1, wherein

ring A is a benzene ring;

ring B is a benzene ring;

X is a valence bond, CH_2CH_2, CH=CH, O or S;

R^1 is H;

R^2 is H;

R^3 is H;

R^4 is methyl; R^5 is H;

Alk^1 is CH_2CH_2;

Alk^2 isCH_2;

Ar^1 is benzene ring;

Ar^2 is pyridine ring substituted with none, one or more halogen.

7. A compound according to claim 1, wherein

ring A is a benzene ring;

ring B is a benzene ring;

X is a valence bond, CH_2CH_2, CH=CH, O or S;

R^1 is H;

R^2 is H;

R^3 is H;

R^4 and R^5 form a benzene ring;

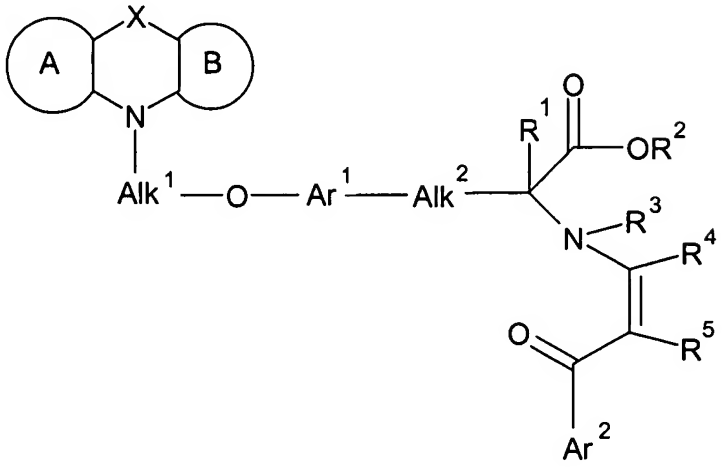
Alk^1 is CH_2CH_2;

Alk^2 isCH_2;

Ar^1 is benzene ring;

Ar^2 is pyridine ring substituted with none, one or more fluorine.

8. A process for the preparation of a compound of Formula I



(I)

wherein

ring A and ring B, fused to the ring containing X and N, independently of each other represents a 5-6 membered cyclic ring, which may optionally contain one or more heteroatoms selected from oxygen, sulfur or nitrogen atoms and may optionally substituted with one or more halogen, hydroxy, nitro, cyano, alkyl, alkenyl, alkenynyl, aralkyl,

heteroarylalkyl, aminoalkyl, alkoxyalkyl, aryloxyalkyl, aralkoxyalkyl, hydroxyalkyl, thioalkyl, heterocyclyl, alkoxy, aryl, aryloxy, aralkoxy, heteroaryl, heteroaryloxy, heteroaralkoxy, acyl, acyloxy, amino, alkylamino, arylamino, or aralkylamino; the ring A and ring B may be saturated or contain one or more double bonds or may be aromatic;

X is a valence bond, CH_2CH_2, CH=CH, O, S, or NR^6 wherein R^6 represents H, alkyl, alkenyl, alkenynyl, aralkyl, heteroarylalkyl, heterocyclyl, aryl, or heteroaryl;

R^1 is H, alkyl, alkenyl, alkenynyl, aralkyl, heteroarylalkyl, aminoalkyl, alkoxyalkyl, aryloxyalkyl, aralkoxyalkyl, hydroxyalkyl, thioalkyl, heterocyclyl, OH, halogen, alkoxy, aryl, aryloxy, aralkoxy, heteroaryl, heteroaryloxy, heteroaralkoxy, acyl, acyloxy, amino, alkylamino, arylamino, or aralkylamino;

R^2 is H, alkyl, alkenyl, alkenynyl, aralkyl, heteroarylalkyl, heterocyclyl, aryl, or heteroaryl;

R^3 is H, alkyl, alkenyl, alkenynyl, aralkyl, heteroarylalkyl, heterocyclyl, aryl, or heteroaryl;

R^4 and R^5 are independently H, alkyl, alkenyl, alkenynyl, aralkyl, heteroarylalkyl, aminoalkyl, alkoxyalkyl, aryloxyalkyl, aralkoxyalkyl, hydroxyalkyl, thioalkyl, heterocyclyl, OH, halogen, alkoxy, aryl, aryloxy, aralkoxy, heteroaryl, heteroaryloxy, heteroaralkoxy, acyl, acyloxy, amino, alkylamino, arylamino, or aralkylamino; R^4 and R^5 may form a 5 or 6 membered ring optionally substituted with one or more halogen, hydroxy, nitro, cyano, alkyl, alkenyl, alkenynyl, aralkyl, heteroarylalkyl, aminoalkyl, alkoxyalkyl, aryloxyalkyl, aralkoxyalkyl, hydroxyalkyl, thioalkyl, heterocyclyl, alkoxy, aryl, aryloxy, aralkoxy, heteroaryl, heteroaryloxy, heteroaralkoxy, acyl, acyloxy, amino, alkylamino, arylamino, or aralkylamino;

Alk^1 represents $C_{1\text{-}6}$alkylene;

Alk^2 represents $C_{1\text{-}2}$alkylene;

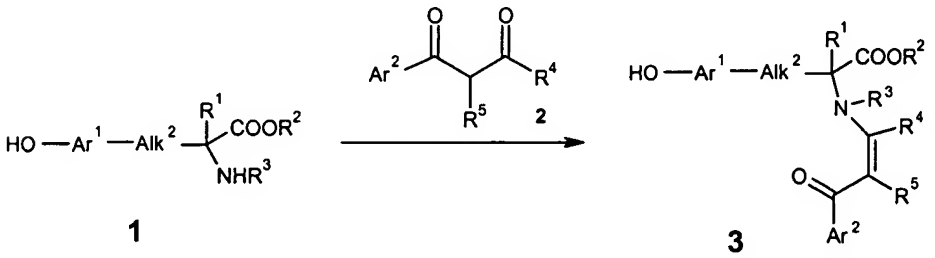
Ar^1 represents arylene, hetero arylene, or a divalent heterocyclic group optionally substituted with one or more halogen, C1-6alkyl, amino, hydroxy, C1-6alkoxyl or aryl.

Ar^2 represents an aryl group substituted with none, one or more halogen, C1-6alkyl, amino, hydroxy, C1-6alkoxyl or aryl; a hetero arylene, or a divalent heterocyclic group optionally substituted with non, one or more halogen, C1-6alkyl, amino, hydroxy,

C1-6alkoxyl or aryl,

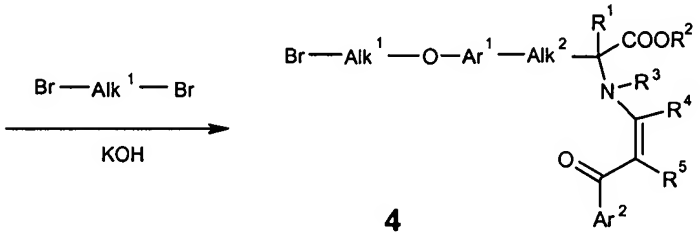
a stereoisomer, enantiomer, diastereomer, hydrate or pharmaceutically acceptable salts thereof comprising the steps of:

a) initiating a condensation reaction between compound 1 and β–diketone 2 to give the vinylogous amide analogues 3;



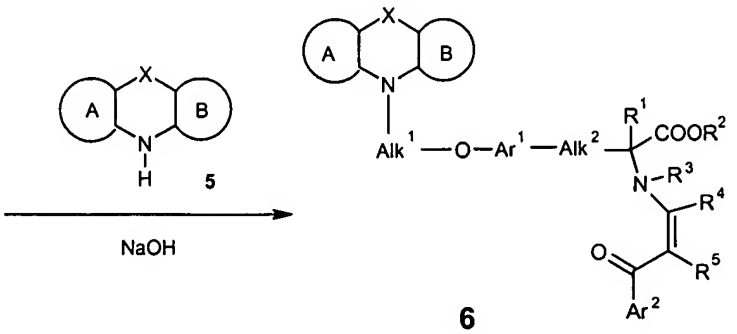
1 2 3

b) performing O-Alkylation of 3 to gave compound 4;



4

c) performing N-Alkylation of 4 gave the substituted arylalcanoic acid derivatives 6.



5 6

9. A process according to claim 8 wherein:

(a) the condensation reaction is carried out in ethanol at reflux temperature;

(b) the O-alkylation is achieved by treatment of 3 with KOH and dibromoalkane in ethanol;

(c) the N-alkylation is achieved by treating compound 4 with NaOH and compound 5 in the presence of tetrabutyl ammonium bromide.

10. A compound according to claim 1, wherein said compound is a PPAR pan agonist that activates RXR/PPARalpha, RXR/PPARgamma, and RXR/PPARdelta heterodimers.

11. A compound according to claim 10, wherein said compound is a partial PPAR pan agonist that activates RXR/PPARalpha, RXR/PPARgamma, and RXR/PPARdelta heterodimers to differential extents.

12. A pharmaceutical composition for activating nuclear receptors comprising an effective amount of a compound according to claim 1 or its pharmaceutically acceptable salt with at least one pharmaceutically acceptable carrier or diluent.

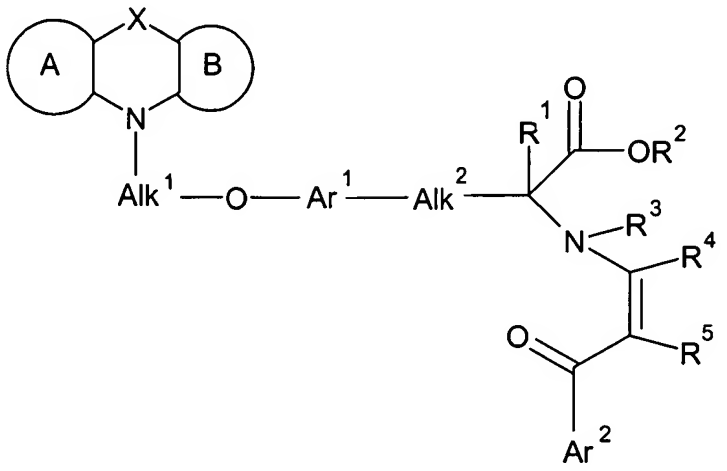
13. The pharmaceutical composition according to claim 11 wherein the nuclear receptors comprise the Retinoid X Receptor (RXR) and the Peroxisome Proliferator-Activated Receptors (PPAR).

14. The pharmaceutical composition of claim 12 in unit dosage form, comprising from about 0.05 to about 200 mg of the compound.

15. The pharmaceutical composition of claim 14 in unit dosage form, comprising from about 0.1 to about 100 mg of the compound

16. The pharmaceutical composition of claim 12 which is suitable for administration by an oral, nasal, transdermal, pulmonary, or parenteral route.

17. A method of treating or preventing a condition mediated by at least one nuclear receptor, comprising administering to a subject in need thereof an effective amount of a compound of Formula I



(I)

wherein

ring A and ring B, fused to the ring containing X and N, independently of each other represents a 5-6 membered cyclic ring, which may optionally contain one or more heteroatoms selected from oxygen, sulfur or nitrogen atoms and may optionally substituted with one or more halogen, hydroxy, nitro, cyano, alkyl, alkenyl, alkenynyl, aralkyl, heteroarylalkyl, aminoalkyl, alkoxyalkyl, aryloxyalkyl, aralkoxyalkyl, hydroxyalkyl, thioalkyl, heterocyclyl, alkoxy, aryl, aryloxy, aralkoxy, heteroaryl, heteroaryloxy, heteroaralkoxy, acyl, acyloxy, amino, alkylamino, arylamino, or aralkylamino; the ring A and ring B may be saturated or contain one or more double bonds or may be aromatic;

X is a valence bond, CH_2CH_2, CH=CH, O, S, or NR^6 wherein R^6 represents H, alkyl, alkenyl, alkenynyl, aralkyl, heteroarylalkyl, heterocyclyl, aryl, or heteroaryl;

R^1 is H, alkyl, alkenyl, alkenynyl, aralkyl, heteroarylalkyl, aminoalkyl, alkoxyalkyl, aryloxyalkyl, aralkoxyalkyl, hydroxyalkyl, thioalkyl, heterocyclyl, OH, halogen, alkoxy, aryl, aryloxy, aralkoxy, heteroaryl, heteroaryloxy, heteroaralkoxy, acyl, acyloxy, amino, alkylamino, arylamino, or aralkylamino;

R^2 is H, alkyl, alkenyl, alkenynyl, aralkyl, heteroarylalkyl, heterocyclyl, aryl, or heteroaryl;

R^3 is H, alkyl, alkenyl, alkenynyl, aralkyl, heteroarylalkyl, heterocyclyl, aryl, or heteroaryl;

R^4 and R^5 are independently H, alkyl, alkenyl, alkenynyl, aralkyl, heteroarylalkyl, aminoalkyl, alkoxyalkyl, aryloxyalkyl, aralkoxyalkyl, hydroxyalkyl, thioalkyl, heterocyclyl, OH, halogen, alkoxy, aryl, aryloxy, aralkoxy, heteroaryl, heteroaryloxy, heteroaralkoxy, acyl, acyloxy, amino, alkylamino, arylamino, or aralkylamino; R^4 and R^5 may form a 5 or 6 membered ring optionally substituted with one or more halogen, hydroxy, nitro, cyano, alkyl, alkenyl, alkenynyl, aralkyl, heteroarylalkyl, aminoalkyl, alkoxyalkyl, aryloxyalkyl, aralkoxyalkyl, hydroxyalkyl, thioalkyl, heterocyclyl, alkoxy, aryl, aryloxy, aralkoxy, heteroaryl, heteroaryloxy, heteroaralkoxy, acyl, acyloxy, amino, alkylamino, arylamino, or aralkylamino;

Alk^1 represents C_{1-6}alkylene;

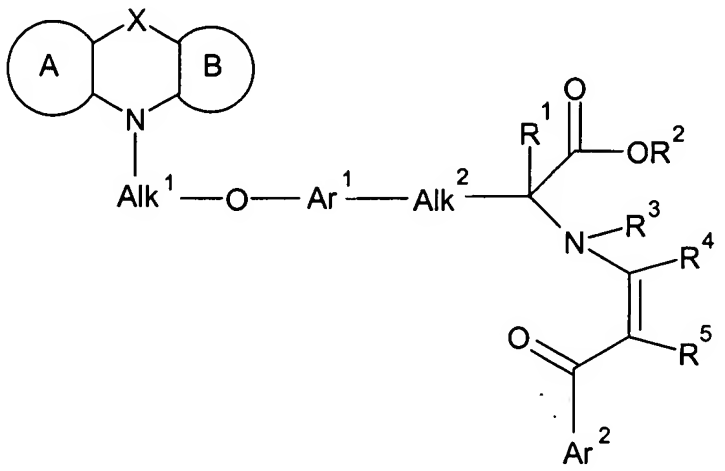
Alk^2 represents C_{1-2}alkylene;

Ar^1 represents arylene, hetero arylene, or a divalent heterocyclic group optionally substituted with one or more halogen, C_{1-6}alkyl, amino, hydroxy, C_{1-6}alkoxyl or aryl.

Ar^2 represents an aryl group substituted with none, one or more halogen, C_{1-6}alkyl, amino, hydroxy, C_{1-6}alkoxyl or aryl; a hetero aryl, or a heterocyclic group optionally substituted with one or more halogen, C_{1-6}alkyl, amino, hydroxy, C_{1-6}alkoxyl or aryl.

18. A method according to claim 17, wherein the nuclear receptors comprise a Retinoid X Receptor (RXR) and Peroxisome Proliferator-Activated Receptors (PPAR).

19. A method of treating or preventing a condition mediated by reduced activity of at least one nuclear receptor, comprising administration to a subject in need thereof an effective amount of a compound of Formula I



(I)

wherein

ring A and ring B, fused to the ring containing X and N, independently of each other represents a 5-6 membered cyclic ring, which may optionally contain one or more heteroatoms selected from oxygen, sulfur or nitrogen atoms and may optionally substituted with one or more halogen, hydroxy, nitro, cyano, alkyl, alkenyl, alkenynyl, aralkyl, heteroarylalkyl, aminoalkyl, alkoxyalkyl, aryloxyalkyl, aralkoxyalkyl, hydroxyalkyl, thioalkyl, heterocyclyl, alkoxy, aryl, aryloxy, aralkoxy, heteroaryl, heteroaryloxy, heteroaralkoxy, acyl, acyloxy, amino, alkylamino, arylamino, or aralkylamino; the ring A and ring B may be saturated or contain one or more double bonds or may be aromatic;

X is a valence bond, CH_2CH_2, CH=CH, O, S, or NR^6 wherein R^6 represents H, alkyl, alkenyl, alkenynyl, aralkyl, heteroarylalkyl, heterocyclyl, aryl, or heteroaryl;

R^1 is H, alkyl, alkenyl, alkenynyl, aralkyl, heteroarylalkyl, aminoalkyl, alkoxyalkyl, aryloxyalkyl, aralkoxyalkyl, hydroxyalkyl, thioalkyl, heterocyclyl, OH, halogen, alkoxy, aryl, aryloxy, aralkoxy, heteroaryl, heteroaryloxy, heteroaralkoxy, acyl, acyloxy, amino, alkylamino, arylamino, or aralkylamino;

R^2 is H, alkyl, alkenyl, alkenynyl, aralkyl, heteroarylalkyl, heterocyclyl, aryl, or heteroaryl;

R^3 is H, alkyl, alkenyl, alkenynyl, aralkyl, heteroarylalkyl, heterocyclyl, aryl, or heteroaryl;

R^4 and R^5 are independently H, alkyl, alkenyl, alkenynyl, aralkyl, heteroarylalkyl, aminoalkyl, alkoxyalkyl, aryloxyalkyl, aralkoxyalkyl, hydroxyalkyl, thioalkyl, heterocyclyl, OH, halogen, alkoxy, aryl, aryloxy, aralkoxy, heteroaryl, heteroaryloxy, heteroaralkoxy, acyl, acyloxy, amino, alkylamino, arylamino, or aralkylamino; R^4 and R^5 may form a 5 or 6 membered ring optionally substituted with one or more halogen, hydroxy, nitro, cyano, alkyl, alkenyl, alkenynyl, aralkyl, heteroarylalkyl, aminoalkyl, alkoxyalkyl, aryloxyalkyl, aralkoxyalkyl, hydroxyalkyl, thioalkyl, heterocyclyl, alkoxy, aryl, aryloxy, aralkoxy, heteroaryl, heteroaryloxy, heteroaralkoxy, acyl, acyloxy, amino, alkylamino, arylamino, or aralkylamino;

Alk^1 represents C_{1-6}alkylene;

Alk^2 represents C_{1-2}alkylene;

Ar^1 represents arylene, hetero arylene, or a divalent heterocyclic group optionally substituted with one or more halogen, C_{1-6}alkyl, amino, hydroxy, C_{1-6}alkoxyl or aryl.

Ar^2 represents an aryl group substituted with none, one or more halogen, C_{1-6}alkyl, amino, hydroxy, C_{1-6}alkoxyl or aryl; a hetero aryl, or a heterocyclic group optionally substituted with one or more halogen, C_{1-6}alkyl, amino, hydroxy, C_{1-6}alkoxyl or aryl.

20. A method according to claim 19 wherein said condition is selected from the group consisting of type 1 diabetes, type 2 diabetes, dyslipidemia, syndrome X, cardiovascular disease, atherosclerosis, hypercholesteremia, and obesity.

21. The method according to claim 20, wherein the effective amount of the compound is in the range of from about 0.05 to about 200mg/kg body weight per day.

22. The method according to claim 21, wherein the effective amount of the compound is in the range of from about 0.1 to about 100mg/kg body weight per day.

23. The method according to claim 22, where in the effective amount of the compound is in the range of from about 0.1 to about 50mg/kg body weight per day.

24. A method of treating or preventing a condition according to claim 19 comprising administering to a subject in need thereof an effective amount of the compound in combination with at least one agent selected from the group consisting of a hypolipidemic agent, lipid-lowering agent, lipid modulating agent, antidiabetic agent, anti-obesity agent, antihypertensive agent, and a platelet aggregation inhibitor; which may be administered orally in the same dosage form, in a separate oral dosage form or by injection.

25. A method of treating or preventing a condition according to claim 24 wherein the hypolipidemic agent or lipid-lowering agent or lipid modulating agent is selected from the group consisting of at least one: MTP inhibitor, HMG CoA reductase inhibitor, squalene synthetase inhibitor, fibric acid derivative, ACAT inhibitor, lipoxygenase inhibitor, cholesterol absorption inhibitor, ileal Na+/bile acid cotransporter inhibitor, upregulator of LDL receptor activity, bile acid sequestrant, and nicotinic acid or a derivative thereof.

26. A method of treating or preventing a condition according to claim 24 wherein at least one antidiabetic agent is selected from the group consisting of an insulin secretagogue, an insulin sensitizer, a biguanide, a sulfonyl urea, a glucosidase inhibitor, a PPAR γ partial agonist or antagonist, a thiazolidinedione, a P2 inhibitor, a dipeptidyl peptidase IV (DP4) inhibitor, a SGLT2 inhibitor, a meglitinide, insulin, and a glucagon-like peptide-1 (GLP-1).

27. A method of treating or preventing a condition according to claim 24 wherein at least one agent is selected from the group consisting of an anti-obesity agent, a beta 3 adrenergic agonist, a lipase inhibitor, a serotonin (and dopamine) reuptake inhibitor, a P2 inhibitor, a thyroid receptor agonist, and an anorectic agent.

28. A method of treating or preventing a condition according to claim 24 wherein at least one antihypertensive agent agent is selected from the group consisting of an ACE inhibitor, an

angiotensin II receptor antagonist, an NEP/ACE inhibitor, a calcium channel blocker, a β-adrenergic blocker and a diuretic.

* * *